

## The Question of Asthma and Race

In the early 1980s, studies were published showing a relationship between race and environmental risk, raising concerns that minority populations were being unfairly affected by pollution. Around this time, researchers also began to notice that asthma prevalence was significantly higher in minority communities. In one 1990 study published in the *American Review of Respiratory Disease*, asthma prevalence in black children was found to be 7.2%, as compared with 3.0% among white children. A 1994 study published in *Pediatrics* found extraordinarily high rates of asthma in New York City's minority Bronx neighborhoods—as high as 12.8%.

For many, the relationship between race and asthma seemed to be clear evidence that the health of minorities was being compromised by inequitable environmental practices. A study published in the 23 October 1996 issue of the *American Journal of Public Health* suggests, however, that differences in asthma prevalence may be due as much to differences in diagnosis as to differences in environment.

This study by Joan Cunningham, Douglas W. Dockery, and Frank E. Speizer of the Harvard School of Public Health focused on the prevalence of asthma and persistent wheeze among 1,416 black and white Philadelphia school children age 9–11. Wheezing is one of the primary symptoms of asthma. The study found, as most previous studies had, that black race was a significant predictor of diagnosed asthma; 9.4% of black children were reported to be asthmatic, while only 5.2% of white children were reported to be diagnosed with the disease. However, when the prevalence of persistent wheeze in the two groups was analyzed, no statistically significant difference was found (9.1% prevalence for black children versus 6.8% for white children). These results led the researchers to conclude that part of the discrepancy in asthma prevalence between races could be explained by differences in diagnosis. "The issue that we're raising is that blacks tend to get the diagnosis of asthma more than whites," Dockery said.

Why symptomatic blacks are diagnosed with asthma more often than symptomatic whites is puzzling, Dockery said, but he offers one scenario that may explain the difference: "It may be that low-income minorities are less likely to have a general practitioner that they visit regularly. Instead, they are more likely to seek emergency room care. If these children come into the hospital on an emergency basis with a breathing problem, . . . and if they respond to a bronchodilator, they are very likely to be labeled as asthmatic." On the other hand, Dockery said, more affluent children may be treated for breathing problems, including persistent wheeze, by a family doctor, but because this type of care is less episodic, doctors don't feel pressured to make an immediate asthma diagnosis. An editorial by Peter Gergen, a health scientist administrator at the Agency for Health Care Policy Research, that also appears in the 23 October 1996 *American Journal of Public Health* supports this explanation, pointing out that studies have shown that poor children are more likely to use emergency rooms as their principal source of health care. "We are faced with the paradox that inadequate care can contribute to increased diagnostic labeling of wheezing episodes among poor children," Gergen writes.

The Harvard group is not the first to propose that differences in asthma prevalence across races is due in part to differences in diagnosis; a similar conclusion was proposed in the 1994 article in the journal *Pediatrics*. However, the authors of the Harvard study point out that these results do not imply that there are no other factors influencing the higher rates of asthma seen in minorities. For example, low socioeconomic status may increase the prevalence of asthma diagnosis among minority children in two ways—first, by exposing them to harmful agents that actually cause the condition and, second, by forcing them into the type of sporadic health care that results in a quick diagnosis.

"Part of this seems to be difference in diagnosis, but we still think there is . . . some environmental factor that these studies have not brought out that is contributing [to asthma]," Dockery said. Research is now uncovering how exposure to dust mites, cockroaches, pets, mold spores, and endotoxins might contribute to the disease, he said. Several intervention trials are now taking place to see if healthy environments can reduce a person's chances of developing asthma symptoms.

challenges than in the cities, according to Steve Wing, associate professor of epidemiology at the University of North Carolina at Chapel Hill School of Public Health and principal investigator of the Southeast Halifax Environmental Reawakening in Tillery, North Carolina. Tillery and Halifax County are in the midst of a sharp rise in the number and intensity of hog production operations over the past ten years. The state now ranks second in hog production nationwide and most of the new facilities have been built in the "Black Belt" counties—counties with large African-American populations—according to an article by Wing and colleagues in the October 1996 issue of *Environment and Urbanization*.

Poor rural residents often depend on shallow wells, putting them at particular risk for exposure to groundwater pollution caused by the hog operations. The project hopes to better inform residents and health professionals, to encourage them to help prevent and remediate environmental health problems, and to develop educational materials that can be used throughout eastern North Carolina.

"Actual chemical or bacteria contamination is only part of the issue in environmental justice," says Wing. "The hog factories are also driving down land prices, putting local farmers out of work, and changing the food supply by flooding the market with cheap pork. Plus, the odors are a very noxious presence in the community. These are all environmental justice issues; they all have health effects."

### In the Future

The environmental justice grant program also supports projects in southeast Los Angeles, Baltimore, Yukon Flats, Alaska, urban Appalachia, Alabama, Texas, and the Navajo, Shoshone, and Cherokee nations. Each region has shaped its objectives and methods to effectively respond to the needs of their communities.

While the grants provide for efforts in public education and community outreach, they do not support medical or epidemiological research in their underserved communities. However, Wing hopes the program will help develop stronger ties with local residents and allow researchers to better analyze environmental health problems and propose solutions in the future.

"In the rural South, there's a history of unethical treatment of poor blacks," says Wing. "They have a real mistrust of the medical establishment. To have doctors say they want to see them just to draw blood, it turns them into research [subjects]. I feel this is wrong. So the only right way is to